



PATENT APPLICATION

THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE HONORABLE BOARD OF PATENT APPEALS AND INTERFERENCES

In re the Application of

Masaharu OKU et al.

Application No.: 09/347,525

Filed: July 6, 1999

For: METHOD AND APPARATUS FOR THE LAMINATION OF BAND-SHAPED
UNCURED RUBBER MATERIALS

On Appeal From

Group Art Unit: 1733

Examiner: G. Knable

Docket No.: 103778

REPLY BRIEF

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

The following comments are directed to the points and arguments raised in the
Examiner's Answer mailed June 3, 2004.

I. The Claims Are Not Obvious Over Deist

A. Group I, claim 1

In Response to Argument VI.A. of Applicants' Appeal Brief as set forth on page 9,
lines 2-4 of the Examiner's Answer, the Examiner asserts that even if the ordinary artisan
provided five extruders as a modification of Fig. 1, the blending would still be occurring in
the final extruder and it is not therefore seen how the present claims would define over this.
This is not correct and exemplifies why Deist did not contemplate "extruders" as a viable
alternative to the blending mill. (As a side note, Applicant claims a single extruder, not
"extruders".)

Assuming that the calendar 24 in Fig. 1 of Deist is replaced by an extruder, that extruder would not create a blend of a first rubber material and a second rubber material. The blending would not occur because the blending mill 10, located upstream from the calendar 24, masticates the material into a tacky plasticized mass. After the blending mill 10 creates the tacky plasticized mass and forwards that mass in the form of a strip 20, the strip 20 would then only pass through the extruder that is used to replace the calendar 24. Although the extruder may narrow the width of the strip 20 in order to form the strip 35, no further blending would occur because only one tacky plasticized mass is forwarded from the blending mill 10 to the extruder. In other words, blending of a first material and a second material by the extruder can not occur if only one type of material is forwarded to the extruder that is used to replace the calendar 24. Accordingly, contrary to the Examiner's assertion, blending would not occur in the final extruder.

As set forth on page 11, lines 2-4 of the Examiner's Answer, the Examiner states that an abrupt change from one specific stock of pellet to another specific stock of pellet would arguably seem to be a "stepwise" change as claimed. This single abrupt change teaches away from the Examiner's argument that Deist creates a blend of the first rubber material and the second rubber material.

As set forth on page 11, lines 5-10 of the Examiner's Answer, the Examiner only states that helical winding with overlap is considered to be obvious over Deist alone and that Applicants have not shown any error in this position. Furthermore, as set forth in the paragraph bridging paragraphs 5 and 6 of the Examiner's Answer, the Examiner insists that a helical winding process is the only way a narrow strip can be wound. This is not correct.

As claimed in claim 1, a second band-shaped member is helically wound on the first rubber layer while overlapping with at least a part of the first rubber layer to form a second rubber layer. As illustrated by Applicants' Fig. 2, the second band-shaped rubber

member(A+B) overlaps with at least a part of the first rubber layer (A) (i.e., a vertical overlap) and the second band-shaped rubber member overlaps at least widthwise edge portions of the wound second band-shaped rubber member (i.e., a horizontal overlap). Ridges are thus formed on top of the second layer, when the second band-shaped rubber member overlaps with at least a part of the first rubber layer. In other words, the top of the second layer is not smooth.

As argued, Deist merely references Hanson for any disclosure for winding the ribbon onto a tire carcass. As illustrated by Fig. 5 of Hanson, when Hanson winds a ribbon on a drum, the layers are not overlapped but are simply placed on top of each other as evidenced by the smooth top layer (i.e., ridges are not formed on the top surface). Hanson fails to wind a second layer on a first layer while overlapping with at least a part of the first layer. Hanson thus uses a winding method that is different from the helical winding of claim 1. Accordingly, claim 1 recites a different winding that is neither disclosed nor suggested by Deist which merely references Hanson.

B. Groups II-IV, claims 2-4 Are Not Obvious Over Deist

In Response to Argument VI.B-VI.D. of Applicants' Appeal Brief as also set forth on page 11, lines 14-19 of the Examiner's Answer, the Examiner asserts that Deist clearly and unambiguously would suggest continuous formation of a strip to form different components, the specific numbers and types of materials/blends used being readily selectable by the artisan to yield desired and expected results particularly given the indication in Deist that varying numbers of base stocks can be used alone or in blends to create even more stocks. This is not correct and represents hindsight reconstruction.

Although Deist may discuss using a "gradual transition" from one type rubber stock to another in his overview, in the detailed disclosure Deist insists on adding different rubber pellets sequentially when discussing Fig. 2 (col. 6, line 48 - col. 7, line 2). Thus the "gradual

transition" of Deist is at the boundary where the last of the pellets of the first type are overlaid by the pellets of the second type so that there is a slight mixing at the boundary. There is what Deist calls a "gradual transition" as it is the only possible mixing based on the description. It provides no indication, in Deist, to extrude a blend of a first rubber material and a second rubber material to form a second layer as in claim 1, extrude only a second rubber material to form a third layer as in claim 2, extrude a blend of a second rubber material and a third rubber material to form a fourth layer as in claim 3 or extrude only a third rubber material to form a fifth rubber layer as in claim 4.

Although both Deist and claim 1 may use the word "gradual" and "gradually", respectively, both words have a different meaning in view of the respective specifications. It is this definition that controls how the words are interpreted. Applicants' specification defines "stepwise or gradually increasing" as a progressive transition from a first rubber material to a second rubber material. On the contrary, Deist's specification defines "gradual transition" as the abrupt mixing that occurs at the boundary where the last of the pellets of the first type are overlaid by the pellets of the second type. As such, Deist fails to disclose the stepwise or gradually increasing feature of claim 1 as defined by Applicants' specification. Moreover, Deist merely discloses that a strip is wound on a surface of a tire carcass and thus merely references Hanson for any disclosure with regard to winding different rubber layers.

II. The Claims Are Not Obvious Over Deist In View of Hanson and Okada

A. Group I, claim 1

In Response to Argument VI.H. of Applicants' Appeal Brief, the Examiner only refers to Hanson and Okada on page 11, lines 5-10 of the Examiner's Answer. The Examiner asserts that helical winding with overlap is considered to have been obvious over Deist alone or further in view of Hanson and Okada. This is not correct.

As discussed in paragraph I.A., Deist merely references Hanson for any disclosure for winding the ribbon onto a tire carcass. Hanson fails to helically wind a second band-shaped rubber member on a first rubber layer while overlapping with at least a part of the first rubber layer.

Okada discloses yet another method of winding a rubber strip on a rotary support member. In Okada, extruded rubber is not directly wound on the outer circumference of the rotary support member. Okada merely shows in its Fig. 3, strips of side tread material 12 and rim cushion material 13 being completely overlapped with a previous strip. Figs. 4, 5 and 6 shows strips S3, S4, and S5, respectively, overlapping previously laid strips. As such, Okada fails to teach or suggest any blending of rubber material but to overlap strips. Consequently, Okada also discloses a winding method that is different from the helical winding of claim 1 because Okada fails to overlap at least widthwise edge portions of the wound rubber members. Okada also does not provide any motivation for combining its teaching with Deist, or overcome the deficiencies of Deist.

Contrary to the Examiner's argument, various winding methods do exist as evidenced by the first winding method of Hanson and the second winding method of Okada. However, neither Hanson nor Okada disclose or suggest the helical winding as claimed in claim 1.

III. Conclusion

It is respectfully submitted that the remaining points of argument set forth in the Examiner's Answer were fully addressed in Applicant's Appeal Brief. For at least the reasons set forth herein and in the Appeal Brief, it is respectfully submitted that claims 1-4 and 6-15 are in condition for allowance.

Respectfully submitted,



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